

REMARKS

The Examiner asserts that claims 3, 4, 21 and 22 are improper for failing to limit the subject matter of the independent claim from which they respectfully depend. Applicant respectfully disagrees with the Examiner's reasoning. Independent claims 1 and 19 each recite an extended frequency range that is required to include a "high frequency band between 8 kHz to 11 kHz" but is not solely limited to the frequencies recited in the independent claims. The "2 kHz to 11 kHz" frequency band of claims 3 and 21 further defines this extended frequency range and thus limits the subject matter of the corresponding independent claims. In other words, the waveguide surface of dependent claims 3 and 21 must support the 8 kHz to 11 kHz "high frequency band" of claims 1 and 19 as well as the additional 2 kHz to 8 kHz frequency band that makes up the 2 kHz to 11 kHz "wide frequency band" of dependent claims 3 and 21. In this manner, dependent claims 3 and 19 limit the subject matter of independent claims 1 and 19, respectively. Similar arguments apply to dependent claims 4 and 22.

Claims 1-3, 5, 7, 8, 12, 19-21 and 23 stand rejected under 35 USC 102(b) as being anticipated by U.S. Patent No. 4310065 to Kayman. Claims 4, 9-11 and 22 stand rejected under 35 USC 103(a) as being unpatentable over Kayman. Claim 6 stands rejected under 35 USC 103(a) as being unpatentable over Kayman in view of PCT WO 99/04599 to Perkins. Claims 13 and 24 stand rejected under 35 USC 103(a) as being unpatentable over Kayman in view of U.S. Patent No. 6,862,360 to Tsai. Claims 14 and 25 stand rejected under 35 USC 103(a) as being unpatentable over Kayman in view of U.S. Patent

No. 3,867,586 to Mackawa. Claims 15 and 26 stand rejected under 35 USC 103(a) as being unpatentable over Kayman and Mackawa further in view of U.S. Patent No. 6,116,373 to Dodd. Claims 16 and 27 stand rejected under 35 USC 103(a) as being unpatentable over Kayman and Mackawa further in view of U.S. Patent No. 5,701,358 to Larsen. Claims 17 and 28 stand rejected under 35 USC 103(a) as being unpatentable over Kayman and Mackawa further in view of U.S. Patent No. 6,002,780 to Espiritu. Claims 18 and 29 stand rejected under 35 USC 103(a) as being unpatentable over Kayman in view of U.S. Patent App. No. 2003/0002694. Applicant respectfully disagrees with the Examiner's analysis and requests reconsideration of the claims in light of the arguments presented below.

A rejection based on anticipation "requires that all of the elements and limitations of the claim [be] found within a single prior art reference." *Scripps Clinic & Research Foundation v. Genentech Inc.*, 18 U.S.P.Q. 1001, 1010 (Fed. Cir. 1986)(citing *Carella v. Starlight Archery and Pro Line Co.*, 804 F.2d 135, 138, 231 U.S.P.Q. 644, 646 (Fed. Cir. 1986)). "If it is necessary to reach beyond the boundaries of a single reference to provide missing disclosure of the claimed invention, the proper ground [for rejection] is not a §102 anticipation." *Id.* As set forth below, Kayman does not show all the elements of claim 1. For these reasons, Applicants respectfully submit that claim 1 is patentable over Kayman.

The present invention is directed to an axial symmetric waveguide surface that disperses sound within a particular extended frequency band over a wide spatial region

with small differences (i.e., less than 6dB) in the sound level over the wide spatial region. As pointed to by the Examiner, Kayman discloses a radial horn that disperses sound energy in a 360° radial pattern. Such a 360° dispersion pattern does not necessarily provide less than 6dB sound level differences over the coverage area of the radial horn waveguide, especially for higher frequency sound. In fact, the horn designs of the prior art are highly directional for higher frequencies (i.e., in the 8 kHz to 11 kHz frequency band), which causes the intensity level of high frequency sound to significantly drop off over a wide spatial region and thus fall short of the features and advantages of the present invention.

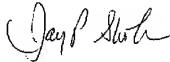
More particularly, claim 1 recites “said waveguide surface dispersing sound within the extended frequency range (which includes the frequency band between 8 kHz and 11 kHz) **at a dispersion angle greater than 90 degrees.**” The **dispersion angle** is a term well known in audio speaker design and is defined on page 10 of the specification as **the angle at which the sound level is reduced by 6dB as compared to the on-axis sound level.** Thus, the waveguide surface of claim 1 disperses sound such that there is less than a 6db sound level difference over the wide sound field covered by the >90° dispersion angle. In this manner, the intensity level of the sound does not significantly drop off over the wide sound field covered by the >90° dispersion angle. Advantageously, such wide angle dispersion characteristics reduce the number of speakers required to cover the listening area and thus reduce costs. Nowhere does Kayman teach or suggest this feature.

Similar arguments apply to independent claim 19 and dependent claims 2-4 and 20-22.

The dependent claims are patentable over the cited prior art for those reasons advanced above with respect to the independent claims 1 and 19 from which they respectfully depend and for reciting additional features that are neither taught nor suggested by the cited prior art.

In light of all of the above, it is submitted that the claims are in order for allowance, and prompt allowance is earnestly requested. Should any issues remain outstanding, the Examiner is invited to call the undersigned attorney of record so that the case may proceed expeditiously to allowance.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Jay P. Sbröllini".

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